REMARKS

The Official Action dated February 23, 2007 has been carefully considered. It is believed that the following remarks demonstrate the patentability of claims 1-20 and therefore place the present application in condition for allowance.

In the Official Action, claims 1-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Topolkaraev et al U.S. Patent No. 5,968,643 in view of the Ling et al publication, "Confocal Scanning Laser Microscopy of Polymer Coatings," *Journal of Applied Polymer Science*, 67:149-158 (1998). The Examiner asserted that Topolkaraev et al teach a method of analyzing pore structure in a microporous polyolefin film by applying a detectable material and focusing the confocal microscope at a depth within the film as claimed. The Examiner further asserted however that Topolkaraev et al failed to specifically teach "focusing a confocal microscope at a depth within the film," but the Examiner relied on Ling et al as teaching confocal scanning laser microscopy (CSLM) of a polymer coating where a CSLM image can be obtained with corresponding depths without interference of a coating layer. The Examiner concluded it would have been obvious to use the confocal microscope in Topolkaraev et al to provide simultaneous qualitative and quantitative information on coating surfaces as well as measurements of a very wide range of surface areas.

This rejection is traversed and reconsideration is respectfully requested. Applicants submit that in the absence of the present specification, there is no teaching or suggestion in the art of record for combining their teachings along the lines of the presently claimed methods and products.

Initially, Applicants note that the proper publication date for the Ling et al publication cited by the Examiner is 1998, not 1997 as indicated on Form PTO 892, as the May 26, 1997 is the publication acceptance date, not its publication date. In fact, Ling et al corresponds with the reference "am" on Applicants' Form PTO-1449.

As defined by claim 1, the invention is directed to a method of analyzing pore structure in a microporous polyolefin film. The method comprises applying a detectable material to one surface of a microporous polyolefin film, wherein the detectable material is capable of traveling through pores in the film, and focusing a confocal microscope at a depth within the film to obtain a first image of the detectable material within pores of the film at the depth within the film. Claim 14 is directed to a similar method but further specifies the film

as microporous polyethylene film and the detectable material as a detectable dye. Additionally, according to the method of claim 14, the confocal microscope is focused at a plurality of depths within the film to obtain a plurality of images of the dye within pores of the film at the plurality of depths within the film. The method of claim 14 further comprises focusing the confocal microscope at the other surface of the film to obtain a surface image of the dye at the other surface, and aligning the obtained images to create a three dimensional image of pore structure through the film.

Claim 15 recites a three dimensional image of pore structure within a microporous polyolefin film. The image comprises a plurality of aligned confocal microscope images, wherein each confocal microscope image comprises a two dimensional image of pore structure at a depth within the film. Finally, claim 20 is directed to a three dimensional image of pore structure within a porous polyethylene film comprising a calcium carbonate filler. The three dimensional image comprises a plurality of aligned confocal microscope images, wherein each confocal microscope image comprising a two dimensional image of pore structure at a depth within the film and wherein the pore structure in each two dimensional image is represented by a detectable dye.

As noted in the present specification, for example at page 2, beginning at line 6 and page 3, beginning at line 17, the methods and images of the invention are advantageous in increasing the ability to analyze pore structure, and particularly pore conductivity in microporous polyolefin films. The results of such analysis facilitate tailoring the design and production of microporous polyolefin films for specific applications. Thus, the present methods and images provide a valuable advance in producing numerous products which include microporous polyolefin films.

Topolkaraev et al disclose microporous films, including polyolefin films and specifically polyethylene films. Topolkaraev et al are particularly concerned with films having a defined combination of properties including water vapor transmission rate, modulus, elongation strain at break and defined water contact angle (Abstract) and providing films having properties tailored for flushable applications (column 2, lines 26-31). At columns 17-18, Topolkaraev et al disclose the use of scanning electron microscopy (SEM) and image analysis techniques well known in the imaging art. However, contrary to the Examiner's assertion at page 2 of the Official Action, Applicants find no teaching or suggestion by Topolkaraev et al relating to any method employing confocal microscopy, and particularly a

method of analyzing pore structure in a microporous polyolefin film using confocal microscopy wherein a confocal microscope is focused at a depth within a film to obtain an image of detectable material within pores of the films at the depth within the film, as required by the present claims.

Ling et al do not resolve this deficiency in the teachings of Topolkaraev et al. That is, Ling et al disclose the use of confocal scanning laser microscopy (CSLM) for characterizing the topography and morphology, particularly the roughness and thickness, of a polymer coating, particularly a coating of poly(2-vinylpyridine) formed by electropolymerization on a metal substrate. Applicants find no teaching or suggestion by Ling et al indicating that confocal scanning laser microscopy can be used for analyzing microporous polyolefin, and particularly for analyzing pore structure in a microporous polyolefin, or specifically polyethylene, film as presently claimed. Accordingly, there is no teaching, suggestion, motivation or recognition that the CSLM used to characterize topography, and particularly surface roughness and thickness of a poly(2-vinylpyridine) coating on a metal substrate is suitable, appropriate or advantageous for analyzing pore structure in a microporous polyolefin or polyethylene film.

Further, Applicants find no teaching or suggestion by Ling et al relating to the more specific method of claim 14 of analyzing pore structure in a microporous polyethylene film by focusing the confocal microscope at a plurality of depths within the film to obtain a plurality of images of the dye within pores of the films of the plurality of depths within the film, focusing the confocal microscope on the other surface of the film to obtain a surface image of the dye at the other surface, and aligning the obtained images to create a three dimensional image of pore structure throughout the film. As Applicants find no teaching or suggestion by Ling et al relating to analysis of porous material, the steps which involve obtaining images of the detectable material within pores of the film at depths within the film are simply neither taught nor suggested by Ling et al.

The Examiner cannot pick and choose among individual elements of assorted prior art references to recreate a claimed invention; rather, the Examiner has the burden to show some teaching or suggestion in the references to support their use in the particular claim combination, *SmithKline Diagnostics, Inc. v. Helena Laboratories Corp.*, 8 U.S.P.Q. 2d 1468, 1475 (Fed. Cir. 1988); *Symbol Technologies, Inc. v. Opticon*, 19 U.S.P.Q. 2d 1241, 1246 (Fed. Cir. 1991). The requisite teaching or suggestion of analyzing pore structure of a

polyolefin or polyethylene film as presently claimed by focusing a confocal microscope in a depth within a film to obtain an image of detectable material within pores of the film at the depth within the film, is absent.

Similarly, the mere fact that prior art could be modified to result in a claimed invention would not have made the modification obvious unless the prior art suggested the desirability of the modification, *In re Mills*, 16 U.S.P.Q.2d 1330, 1340 (Fed. Cir. 1990); *In re Fritch*, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). Neither Topolkaraev et al nor Ling et al teach or suggest that pore structure within a microporous polyolefin film may be analyzed by focusing a confocal microscope at a depth within the film to obtain a first image of a detectable material within pores of the film at the depth within the film, according to the method and product of claims 1 and 15, or by such a method wherein a plurality of images of the dye within pores of the film at a plurality of depths within the film are obtained and aligned to create a three dimensional image of pore structure through the film according to the method and product of claims 14 and 20. As the cited prior art does not suggest Applicants' methods or products, or provide any reason or motivation for one of ordinary skill in the art to combine their teachings along the lines of the present methods, the cited combination of Topolkaraev et al and Ling et al do not render the presently claimed invention obvious under 35 U.S.C. §103.

It is therefore submitted that the methods and three dimensional images defined by the present claims are nonobvious over and patentably distinguishable from the combination of Topolkaraev et al and Ling et al, whereby the rejection under 35 U.S.C. §103 has been overcome. Reconsideration is respectfully requested.

It is believed that the above represents a complete response to the Official Action and places the present application in condition for allowance. Reconsideration and an early allowance are requested.

Respectfully submitted,

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